

REMARKS

Claim Rejections

Claims 1 and 2 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang (U.S. 6,744,145) in view of Stegeman et al. (U.S. 3,824,420). Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang and Stegeman et al. and further in view of Shallcross (U.S. 1,354,698).

Drawings

It is noted that the Examiner has accepted the drawings as originally filed with this application.

Amendments to Specification

Applicant has amended the specification as noted above to provide a title more descriptive of claimed invention. It is believed that the foregoing amendments to the specification overcome the outstanding objections thereto. No "new matter" has been added to the original disclosure by the foregoing amendments to the specification.

New Claims

By this Amendment, Applicant has canceled claims 1-3 and has added new claims 4-6 to this application. It is believed that the new claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

The new claims are directed toward a generator comprising: a base (11); an annular stator (13) mounted on the base; a rotor base (15) rotatably located in the stator and having: a central hole (152); and at least one key (154) formed on an interior surface of the central hole; a rotor (14) mounted in the rotor base and spaced apart from the annular stator a predetermined distance; a drive shaft (16) slidably inserted into the central hole of the rotor base and movable between first and second positions, in the first position the drive shaft is located in an upwardly most

position, in the second position the drive shaft is located in a downwardly most position, the drive shaft having at least one spiral groove (164) located on an outer surface and extending upwardly from a bottom thereof, one of the at least one key is slidably inserted into each of the at least one spiral groove; a biasing member (18) located between the base and the drive shaft and providing a restitution force pressing the drive shaft away from the base; and a top cover (12) mounted to the base and covering the stator, the rotor base, the drive shaft, and the biasing member, and having a central bore hole, a top of the drive shaft extending through the central bore, wherein the rotor is rotated in a first direction when the shaft moves from the first position toward the second position, and the rotor is rotated in a second direction opposite the first direction when the shaft moves from the second position toward the first position.

Other embodiments of the present invention include: the base having an axle rod (112) extending upwardly from a center thereof, the axle rod being inserted through the biasing member, the drive shaft having a drive shaft hole, the axle rod is slidably inserted into the drive shaft hole when the drive shaft is pressed downwardly toward the second position; and the top cover having at least one keyway (124) located on an interior surface of the central bore hole, the drive shaft having at least one rib (162), one of the at least one rib is slidably inserted into each of the at least one keyway preventing the drive shaft from rotating.

The primary reference to Chang teaches footwear having a power generator and states, column 2, lines 43-51:

The free end of the weight 71 is swingable in a direction (indicated by reference numeral (Z) in FIG. 7) by virtue of gravity when the inclined upper surface 2180 of the stand 218 is swung back and forth in a direction (indicated by reference numeral (W) in FIG. 3) as a result of upward and downward movements of the heel portion 2111 within the angle (α), thereby driving the rotor 62 to rotate back and forth so as to permit actuation of the power generator to generate power.

Chang does not teach a rotor base having at least one key formed on an interior surface of the central hole; a drive shaft slidably inserted into the central hole of the rotor base and movable between first and second positions; in the first

position the drive shaft is located in an upwardly most position, in the second position the drive shaft is located in a downwardly most position; the drive shaft having at least one spiral groove located on an outer surface and extending upwardly from a bottom thereof; one of the at least one key is slidably inserted into each of the at least one spiral groove; a biasing member located between the base and the drive shaft and providing a restitution force pressing the drive shaft away from the base; the rotor is rotated in a first direction when the shaft moves from the first position toward the second position, and the rotor is rotated in a second direction opposite the first direction when the shaft moves from the second position toward the first position; the base having an axle rod extending upwardly from a center thereof, the axle rod being inserted through the biasing member, the drive shaft having a drive shaft hole; the axle rod is slidably inserted into the drive shaft hole when the drive shaft is pressed downwardly toward the second position; the top cover having at least one keyway located on an interior surface of the central bore hole; nor does Chang teach the drive shaft having at least one rib; one of the at least one rib is slidably inserted into each of the at least one keyway preventing the drive shaft from rotating.

The secondary reference to Stegeman et al. teaches device for transforming a rotations motion into a translational motion including a nut (2) with a diameter between crests of thread (4) is larger than an external diameter of a thread (3) of a screw (1) and the nut (2) slides freely in relation to the screw (1). The crests of thread (4) on the nut (2) are always disposed exactly opposite to the crests of thread (3) on the screw (1) due to a magnetic force applied between the nut (2) and the screw (1), such that the thread (4) of the nut (2) is not engaged with the groove between the thread (3) on the screw (1).

Stegeman et al. do not teach a drive shaft slidably inserted into the central hole of the rotor base and movable between first and second positions; in the first position the drive shaft is located in an upwardly most position, in the second position the drive shaft is located in a downwardly most position; one of the at least one key is slidably inserted into each of the at least one spiral groove; a biasing member located between the base and the drive shaft and providing a restitution force pressing the drive shaft away from the base; the rotor is rotated in a first

direction when the shaft moves from the first position toward the second position, and the rotor is rotated in a second direction opposite the first direction when the shaft moves from the second position toward the first position; the base having an axle rod extending upwardly from a center thereof, the axle rod being inserted through the biasing member, the drive shaft having a drive shaft hole; the axle rod is slidably inserted into the drive shaft hole when the drive shaft is pressed downwardly toward the second position; the top cover having at least one keyway located on an interior surface of the central bore hole, the drive shaft having at least one rib; nor do Stegeman et al. teach one of the at least one rib is slidably inserted into each of the at least one keyway preventing the drive shaft from rotating.

The secondary reference to Shallcross teaches a dynamometer having a sleeve having slot, and a rotating shaft (1) having a key (13a). The slot is wider than the key and limits that rotation of the rotating shaft and prevents the shaft from twisting past an elastic limit.

Shallcross does not teach a drive shaft slidably inserted into the central hole of the rotor base and movable between first and second positions; in the first position the drive shaft is located in an upwardly most position, in the second position the drive shaft is located in a downwardly most position; the drive shaft having at least one spiral groove located on an outer surface and extending upwardly from a bottom thereof; one of the at least one key is slidably inserted into each of the at least one spiral groove; a biasing member located between the base and the drive shaft and providing a restitution force pressing the drive shaft away from the base; the rotor is rotated in a first direction when the shaft moves from the first position toward the second position, and the rotor is rotated in a second direction opposite the first direction when the shaft moves from the second position toward the first position; the base having an axle rod extending upwardly from a center thereof, the axle rod being inserted through the biasing member; the drive shaft having a drive shaft hole; nor does Shallcross teach the axle rod is slidably inserted into the drive shaft hole when the drive shaft is pressed downwardly toward the second position.

Even if the teachings of Chang, Stegeman et al., and Shallcross were combined, as suggested by the Examiner, the resultant combination does not

suggest: a drive shaft slidably inserted into the central hole of the rotor base and movable between first and second positions; in the first position the drive shaft is located in an upwardly most position, in the second position the drive shaft is located in a downwardly most position; one of the at least one key is slidably inserted into each of the at least one spiral groove; a biasing member located between the base and the drive shaft and providing a restitution force pressing the drive shaft away from the base; the rotor is rotated in a first direction when the shaft moves from the first position toward the second position, and the rotor is rotated in a second direction opposite the first direction when the shaft moves from the second position toward the first position; nor does the combination suggest the base having an axle rod extending upwardly from a center thereof, the axle rod being inserted through the biasing member, the drive shaft having a drive shaft hole; the axle rod is slidably inserted into the drive shaft hole when the drive shaft is pressed downwardly toward the second position.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Chang, Stegeman et al., or Shallcross that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

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Neither Chang, Stegeman et al., nor Shallcross disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's new claims.


Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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